

Why Texas Needs a Third Flagship University

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***Abstract:** Texas' competitiveness in the global knowledge-based economy means that the State needs at least one more flagship, or comprehensive graduate research university. Texas' two public flagship universities – U.T Austin and Texas A&M cannot meet the educational demand of such a large economy. Many communities would like to see its tier-two institution develop into a flagship because of the prestige and its role in stimulating economic growth. To select a location, the State should establish a commission that would make a recommendation to the Legislature based on competitive bids. The winning community should be the one that best demonstrates a commitment to help finance the new flagship. State investment in new flagships must not be at the expense of the two current flagships or the state's medical institutions.*

Texas needs an additional flagship research university. We have reached this conclusion as a result of the following assumptions about the economy and society of Texas in the 21st century:

1. The Texas population and economy will continue to grow, adding demand for higher education, especially 1st tier university education.
2. Texas must continue to compete in an international economy.
3. A significant portion of the Texas economy will be knowledge-based and will be built on intellectual property that has not yet been created.
4. Texas' best high school students must be given an opportunity to attend elite public universities that will challenge them to their fullest potential.
5. Texas needs a first-class system of higher education if major employers are to be attracted to the State and the technology foundation for new ventures is to be created.

Flagship universities are also described as comprehensive graduate research universities, a term that is more cumbersome than flagship but also more revealing. “Comprehensive” means that these institutions provide both undergraduate and graduate educational opportunities in a large number of academic disciplines. For example, the University of Texas at Austin and Texas A&M University offer more than 200 majors each, while U.T. Dallas offers less than 100 majors, most of which are in the fields of natural science, engineering and business. The “graduate” portion of the description means that while the flagship institutions may have strong undergraduate programs, they also have large, high-quality graduate programs in a broad range of disciplines.

The reference to “research” in the description is important for two reasons: because a key aspect of the education of graduate students is their participation in research programs, and because flagship universities typically conduct research on a very large scale, with research grants from federal and private sources easily exceeding \$300 million per year. The research budget at U.T. Austin, for example, is \$417 million for the 2005-06 academic year and the Texas A&M research budget is slightly higher. Faculty members at flagship universities not only supervise graduate students' research but also carry out

major research programs of their own (and these often employ graduate students or postdoctoral researchers). Another feature of flagship universities, directly related to their graduate education and research function, is that they require large and diverse libraries as well as advanced, specialized laboratories and computer facilities – all on a scale and of a quality far beyond what is necessary at other types of institutions.

Texas has a large and complex system of higher education, composed of public universities; junior, community and technical colleges; medical, dental and health-related institutions and private colleges and universities, that is the result of political and educational decisions made over many decades. Among almost three dozen public academic institutions (excluding the health science institutions), educating 1,040,060 students, there are only two flagship universities or tier-one institutions – U.T. Austin and Texas A&M which have a combined enrollment of 94,000 students. A second group, sometimes called tier-two schools, includes institutions that focus on providing outstanding undergraduate and master's-level education. Most of the institutions in this group have relatively modest research programs and few have doctoral programs. Texas Tech University and the University of Houston are clearly at the head of this group, both in terms of research grants (\$50 million and \$76 million respectively) and doctoral programs. While neither of these institutions yet has the broad-based research and doctoral focus of a flagship, they clearly have pockets of excellence and have been making progress toward fulfilling their aspirations for flagship status.ⁱ

Although there are a number of exceptions, most universities in the second tier realize that their mission, at least for the foreseeable future, is to serve the State by providing outstanding undergraduate and master's level education, and many of them concentrate on serving the needs of a distinctive region rather than attempting a statewide reach. The third-tier of the higher education system is composed of community colleges, which focus on providing associate degrees and technical or vocational education. For many people in Texas, these institutions serve as a beginning place for higher education, from which they then transfer to a university.

As we have just suggested, a number of tier-two universities (and their communities) aspire to flagship status. There are many reasons for these aspirations, including personal ambition, economic interests, and state and local politics. Many university administrators are ambitious for themselves and their institutions, and they recognize that flagship schools have more national stature and prestige than regional institutions. University administrators are generally expected to “move their institution to the next level,” and at many of our State's fine four-year schools, progress is defined only in terms of moving up to flagship status. Unfortunately, this idea of progress is often embraced without any idea of the costs or the realistic chances of success. In the last 30 years there have been numerous calls for achieving flagship status by university administrators, but not one institution in Texas has managed to make the transition and join U.T. Austin and Texas A&M in the first tier.

Local political and business leaders also recognize that a flagship university brings more status and prestige to a community, as well as economic and cultural benefits. They

understand that flagship universities attract substantial federal and state research funds, and that this money can reverberate throughout the local economy. A common impact indicator shows that money spent by Texas higher education institutions is multiplied an estimated 3½ times in the State's economy: when a university brings in \$100 million in research grants, the overall economic impact is likely to be as much as \$350 million. While a significant portion of this will be spent in a university's local community, the benefits are felt throughout Texas. Community leaders also understand that flagship schools can be a magnet for good companies. Companies often seek to grow in communities with a flagship university because they have access to state-of-the-art research, interactions with faculty members and graduate students, advanced educational opportunities for employees, and a reliable supply of well-qualified graduates. Companies also want to locate in communities that offer a good quality of life for employees, so they are attracted by the cultural and entertainment opportunities that a flagship university provides, from athletic events to Broadway plays and art museums.

Apart from the personal ambitions of interested parties and the economic motives of local communities, there are at least three broader justifications for developing a new flagship university in Texas -- reasons that are compelling for the State as a whole and not just for the community that would be the home of the institution.

First, the population of Texas has grown so dramatically that thousands of excellent applicants are being turned down every year by U. T. Austin and Texas A&M -- because those institutions simply do not have room for all the qualified students. Those good students who are turned away are likely either to enroll at an elite private institution, such as Rice University, and pay significantly higher tuition than they would pay at any public university, or to leave Texas to attend a flagship public university in another state. This exodus of many of our best and brightest young people -- both undergraduates and graduate students -- has adverse consequences for Texas. Too many of these students will never come back to Texas, yet they are just the sort of people whom we need as our next generation of entrepreneurs, teachers and scientists.

This leads to the second reason that we need a new flagship university. The graduates of such institutions are typically the leaders in fields such as science, engineering, business, and education. And yet, nationally, the number of graduate students in key fields, is dropping, especially PhDs.ⁱⁱ Texas is a growing state: without a highly educated population, Texas will not be able to compete over the long term with states and other nations that invest more wisely in higher education. We need greater capacity to produce a highly educated population, to retain them in masters and PhD programs through graduation, and to produce our future leaders.

The third broad justification for a new flagship university lies in the fact that some portion of the research that comes out of university laboratories can be commercialized, as we are seeing from results at our main research universities and medical schools. Discoveries by university researchers can provide the scientific and technical basis for new industries and business enterprises, in some cases leading to entirely new fields of endeavor with enormous economic implications (e.g. nanotechnology). While the results

of basic research may form the foundation for new products that will solve old problems, a for-profit business will usually have to invest substantial capital to move the findings of basic research to the marketplace. Rarely, if ever, does a new product come forth from a university laboratory ready for the market without extensive additional development. State support for commercialization efforts, such as the Emerging Technology Fund, is leading the way for more activity targeted at creating value from our university research. It is important to understand that commercializing university research is not easy; nor always profitable, but it can produce viable companies and/or the license of valuable and societally beneficial technology to existing companies.

U.T. Austin and Texas A&M are not big enough to meet the needs of Texas. Several other states have done a much better job of providing their populations with the advanced educational opportunities of flagship universities. California, which has a much stronger and more diversified economy than Texas, has seven public flagship universities (all in the University of California system) as well as two private flagships (Caltech and Stanford). Most people who have analyzed the growth of the California economy give the University of California System and the state's two major private research universities great credit for stimulating this growth over a sustained period.

A major problem for Texas will be deciding where a new flagship institution should be located. Once a decision is made to invest in the development of such an institution, every major community that currently has a four-year university will want to be the home of the new flagship. As a result, every community will support the idea of an additional flagship school until one community is selected, and at that point the danger will be that the communities that lost out and their elected leaders will lose enthusiasm for the project. The prospects could be very similar to our experience with the Superconducting Super Collider, the federally sponsored proton-smasher that enjoyed wide political support until a site was selected for the facility -- in Texas -- at which point the political support in other states began a rapid decline.)

Because of these inherent problems in selecting a site and then maintaining widespread political support, I believe Texas should create a special flagship university commission with three specific charges. The commission's first task would be to carefully review the need for the elite level of educational services that flagship universities provide. Assuming that the commission determines that there is a need to expand such services in Texas, the second charge would be to determine how best to meet this need. While several alternatives exist, such as increasing the enrollments of U.T. Austin and Texas A&M by as much 40 percent each (even though U.T. Austin and Texas A&M are already the largest universities in the United States), our assumption is that the commission would determine that the only economically and educationally viable option for increasing capacity of educational services is to develop a new flagship university. As a result, the commission's third charge would be to examine proposals from any region or community wanting to upgrade a current institution to flagship status.

Presented with the results of such a commission, we believe a very strong case could be made in the Legislature for investment of State resources over a number of years to

upgrade one existing public university to flagship status. The special commission would make a recommendation to the Legislature on which institution should be selected, and this recommendation would be determined by which community put together the most attractive bid -- including commitment of local resources -- to assist the State in the project.

Three final cautionary notes. First, although we have discussed the need for one additional flagship university, it is our personal conviction that Texas is large enough and growing fast enough to justify more than one flagship university. It would be wonderful if the State could muster the financial resources and the political will to create two or more new flagship schools. However, political and economic reality says that we have to concentrate on one institution at a time, even though the State's need for elite educational services is already backlogged.

Second, we must not forget the great medical institutions in Texas. We have some of the finest medical institutions in the world, such as M.D. Anderson Cancer Center and U.T. Southwestern Medical Center. These institutions provide elite graduate educational opportunities for medical students as well as to students seeking masters and doctoral degrees in a variety of other health science disciplines. The State must continue to support these institutions not only because of their educational programs but also because of their contributions to the delivery of health care and to the State's knowledge base in the biosciences, as well as because of the fact that they are responsible for a significant portion of the federal and private research dollars flowing into Texas.

Third, any effort by the State to develop additional flagship universities must not be undertaken at the expense of U.T. Austin and Texas A&M. These two great universities are stretched today, and a strong argument can be made that before the State takes on the responsibility of creating and funding additional flagship institutions, it should first ensure that U.T. Austin and Texas A&M have all the resources they need to be competitive with the world's best flagship schools. Failure to provide for at least one additional flagship university will be a tragedy for the people of Texas, but building up other institutions at the expense of our two existing flagships would be an even greater tragedy.

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ⁱ *Participation Forecast, 2005-2015, Texas Institutions of Higher Education, Texas Higher Education Coordinating Board, January 2005 and www.txhighereddata.org/Interactive/Accountability/Matrix.cfm?Type=UNIV*

ⁱⁱ www.compete.org/benchmarking/default.asp#Workforce_Skills